



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,927	02/20/2002	Hiroaki Nakaminami	1248-0578P-SP	6989
2292	7590	10/07/2003		EXAMINER
BIRCH STEWART KOLASCH & BIRCH			CHOWDHURY, TARIFUR RASHID	
PO BOX 747			ART UNIT	PAPER NUMBER
FALLS CHURCH, VA 22040-0747			2871	

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/077,927	NAKAMINAMI ET AL.
	Examiner Tarifur R Chowdhury	Art Unit 2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_ .  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-16 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1-16 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 20 February 2002 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.  
 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_ .  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.  
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ .	6) <input type="checkbox"/> Other: ____ .

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 11 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 11 recites the limitation "the display panel " in line 5. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1, 10-12, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita, USPAT 6,172,730.**

8. Fujita discloses and shows in Fig. 3D, a display module, which includes a display panel (2) provided with external connection terminals and a flexible wire board (3) having a wire pattern (3a) on a base material (3), terminals of the wire pattern of the flexible wire board and the external connection terminals of the display panel being bonded using an anisotropic conductive adhesive (4), the flexible wire board having an insulating protective layer (3b) for protecting the wire pattern, wherein:

the insulating protective layer (3b) of the flexible wire board is extended inside the display panel while having the flexible wire board connected to the display panel.

Accordingly, claims 1 and 10-12 are anticipated.

As to claims 14 and 16, Fujita discloses that the display panel and the flexible wire board are bonded via the anisotropic conductive adhesive by thermocompression bonding (col. 3,lines 4-8).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

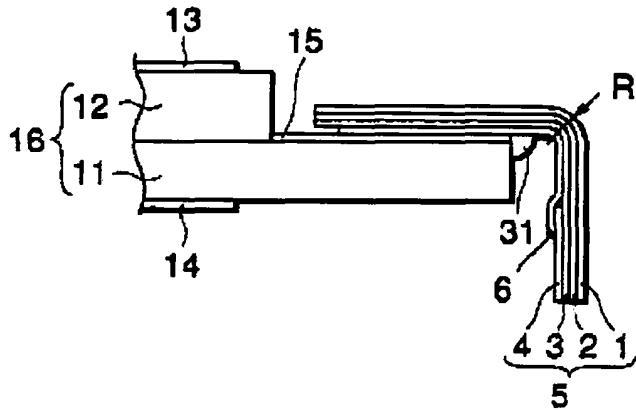
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**11. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura, USPAT 6,211,936 in view of Fujita, USPAT 6,172,730.**

12. Nakamura discloses (col. 1, line 58 – col. 2, line 22) and shows in Fig. 3, a display module, which includes a display panel (16) provided with external connection terminals and a flexible wire board (5) having a wire pattern (3) on a base material (1),



**FIG. 3**

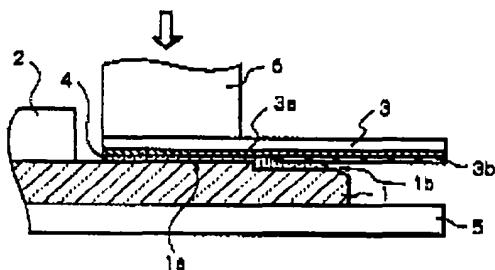
terminals of the wire pattern of the flexible wire board and the external connection terminals of the display panel being bonded using an anisotropic conductive adhesive (6), the flexible wire board (5) having an insulating protective layer (4) for protecting the wire pattern.

Nakamura differs from the claimed invention because he does not explicitly

disclose that the insulating protective layer of the flexible wire board is extended inside the display panel.

Fujita discloses a display module which includes a display panel (2) and a flexible wire board (3) having a wire pattern (3a) and an insulating protecting layer (3b) for protecting the wire pattern wherein the insulating protective layer extends inside the display panel (Fig. 3D). Fujita also discloses that since the insulating protecting layer extends inside the display panel and thus protect the leads of the flexible wire board from being exposed to outside, any short-circuiting can be reliably prevented from occurring to the leads due to the foreign objects adhering thereto (col. 3, lines 20-30; col. 4, lines 6-11; col. 5, lines 59-63).

*Fig. 3D*



Fujita is evidence that ordinary workers in the art would find a reason, suggestion or motivation to extend the insulating protective layer inside the display panel.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display module of Nakamura by extending the insulating protective layer of the flexible wire board inside the display panel so that the leads of the flexible wire board is protected from being exposed to the outside and

thus any short-circuiting can be reliably prevented from occurring to the leads due to the foreign objects adhering thereto, as per the teachings of Fujita.

Accordingly, claims 1, 2, 10, 11 and 12 would have been obvious.

As to claims 3, 4 and 13-16, Nakamura clearly shows in Fig. 3 that the anisotropic conductive adhesive (6) is extended to protrude from the display panel (16). Nakamura also discloses that the base film (1) of the flexible wire board has a thickness of 25  $\mu\text{m}$  (not more than 40, and the insulating protective layer (4) has a thickness of 25  $\mu\text{m}$  (not more than 40 $\mu\text{m}$ ), and the insulating protective layer is bonded onto the base material including the wire pattern (3) by thermocompression bonding (col. 4, lines 29-37; 52-54).

As to claims 5 and 6, Nakamura also shows in Fig. 3 that a corner of the display panel (16), which faces an inner side of a bent portion of the flexible wire board (5) in a bent state, is formed into a chamfered portion. Further, as explained above since Fujita teaches that extending the insulating protective layer of the flexible wire board inside the display panel is advantageous since it prevents any short-circuiting from occurring to the leads due to the foreign objects adhering thereto and that the chamfered portion is formed at the periphery of the substrate of the display panel, it would have at least been obvious that the insulating protective layer of the flexible wire board is extended beyond the chamfered portion.

As to claims 7-9, Nakamura also shows in Fig. 3 that the flexible wire board (5) is also bonded onto the chamfered portion and a side of the display panel by using anisotropic conductive adhesive (31).

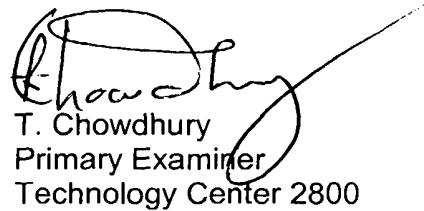
***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (703) 308-4115. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (703) 305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



T. Chowdhury  
Primary Examiner  
Technology Center 2800

TRC  
September 29, 2003